

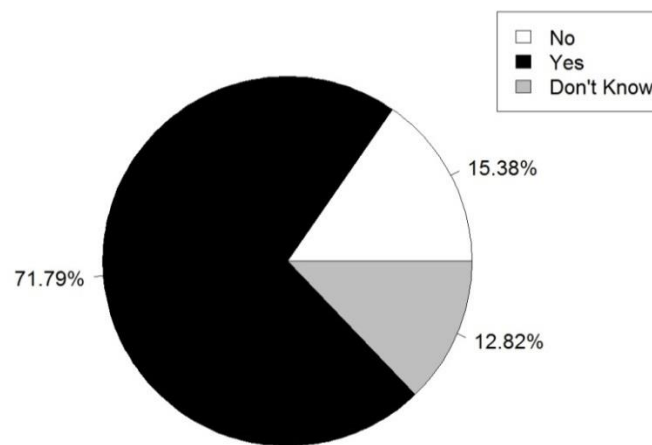
2016 Greater Sage-Grouse Landowner/Producer Survey Results

This survey was developed by the South Dakota Department of Game, Fish and Parks to annually gather local information on factors that could influence sage-grouse abundance (Strategy 2.4 of the Sage-Grouse Management Plan for South Dakota, 2014-2018)

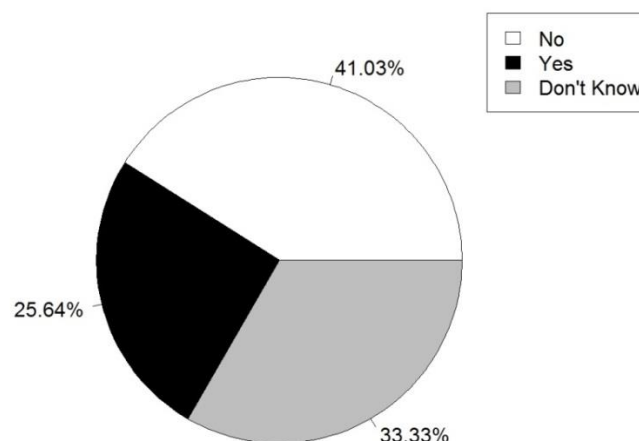
<http://gfp.sd.gov/wildlife/management/plans/docs/SageGrouseManagementPlan.pdf>

Approximately 100 greater sage-grouse landowner/producer surveys were distributed in December 2016 with a return due date of 15 March 2017. We received 40 completed surveys.

Q1. Are there sage-grouse on the land you own/manage?



Q2. Are there active sage-grouse lek(s) on the land you own/manage?



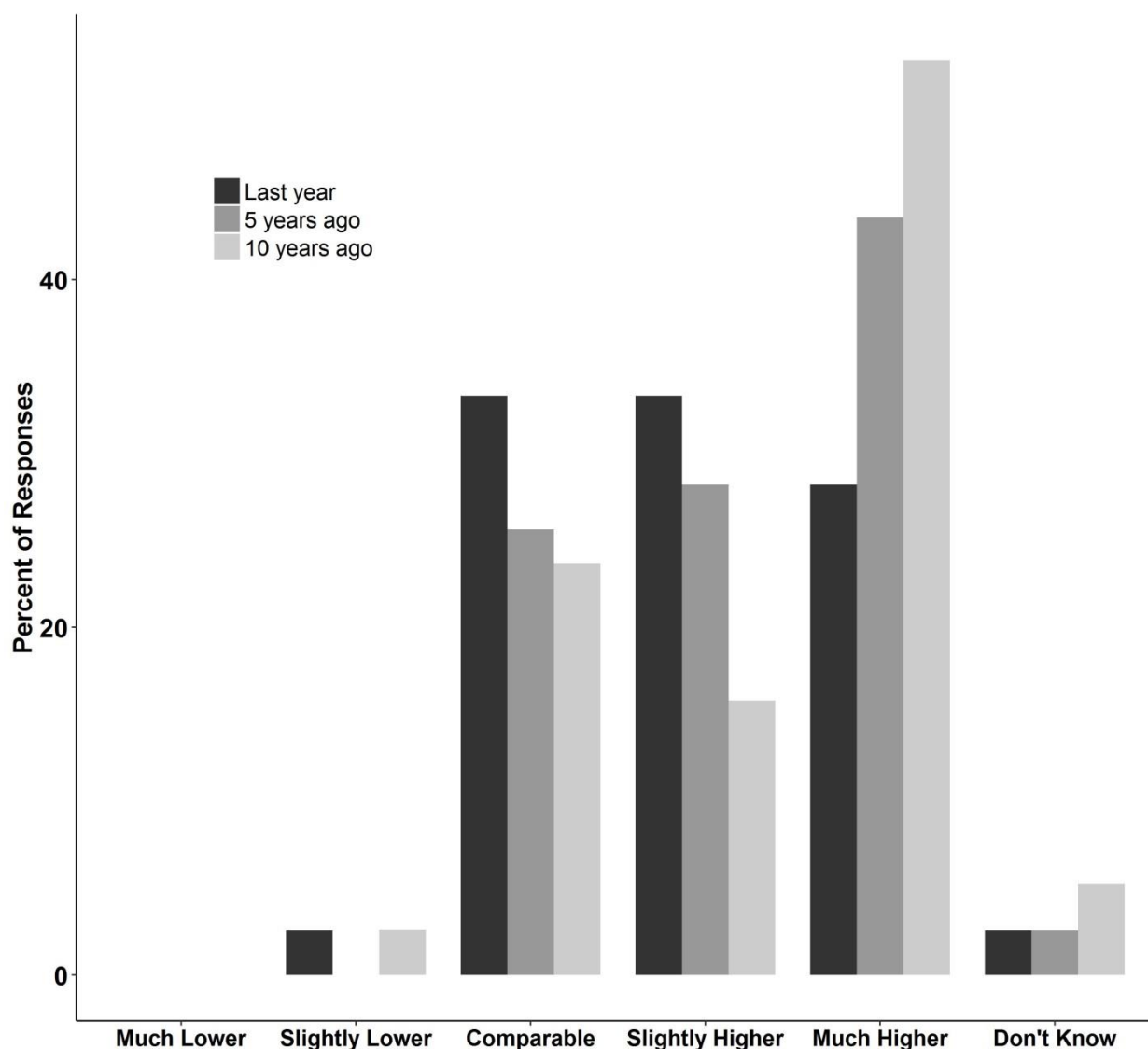
Q3. Were there any local catastrophic events which could have negatively impacted sage-grouse survival or reproduction during the past year? If so, please explain. *Examples could include but are not limited to hail storms, floods, wildfire, etc. Maps or legal descriptions with a depiction of the event are encouraged.*

See Appendix 1 for responses.

Q4. How would you describe habitat/range conditions during the 2016 growing season? *Please note any unusual flushes of sweetclover, cheatgrass, or other vegetation. Please note if drought conditions were present.*

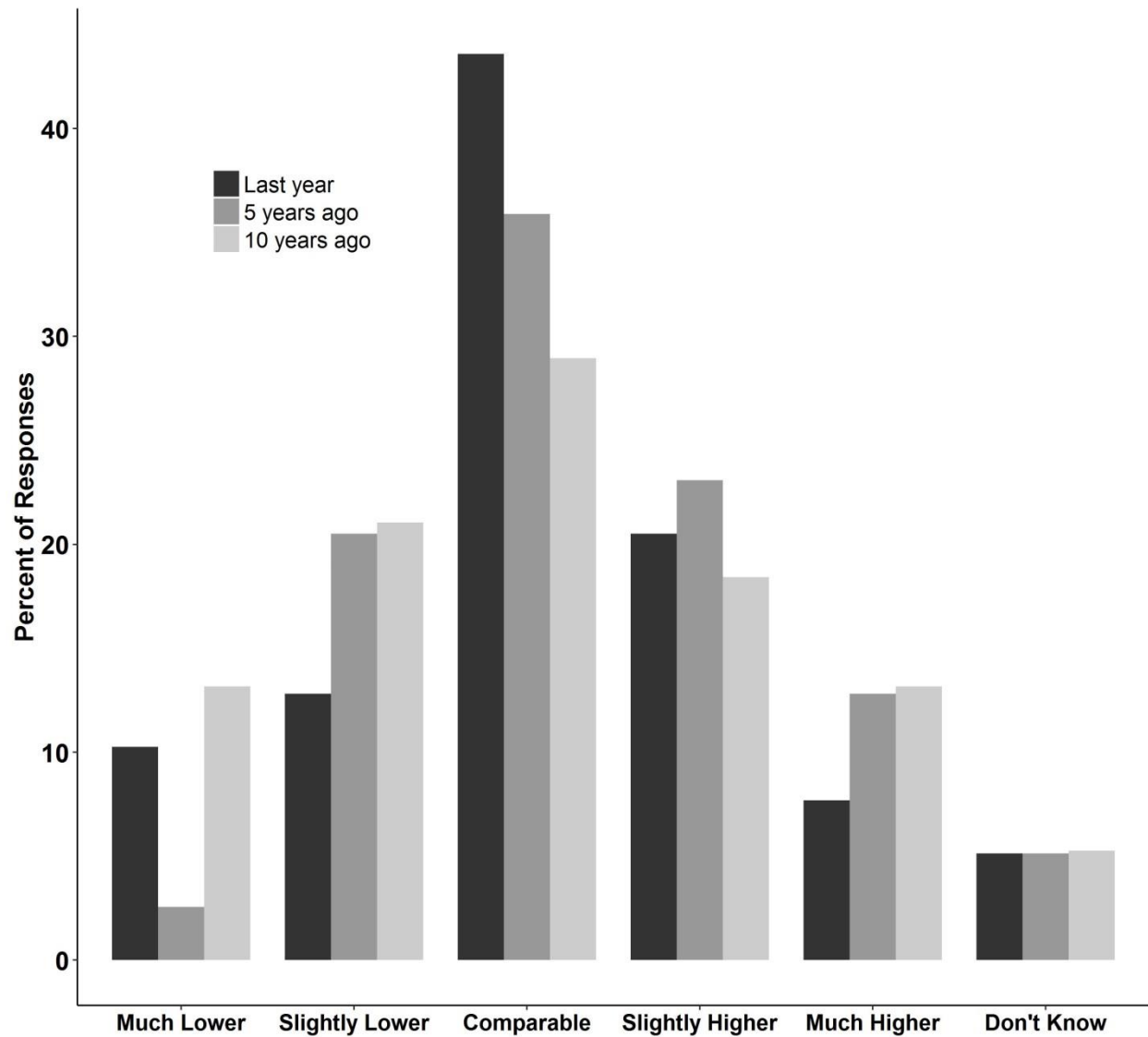
See Appendix 2 for responses.

Q5. How would you describe the abundance of **coyote** in 2016 compared to each of the following timeframes?

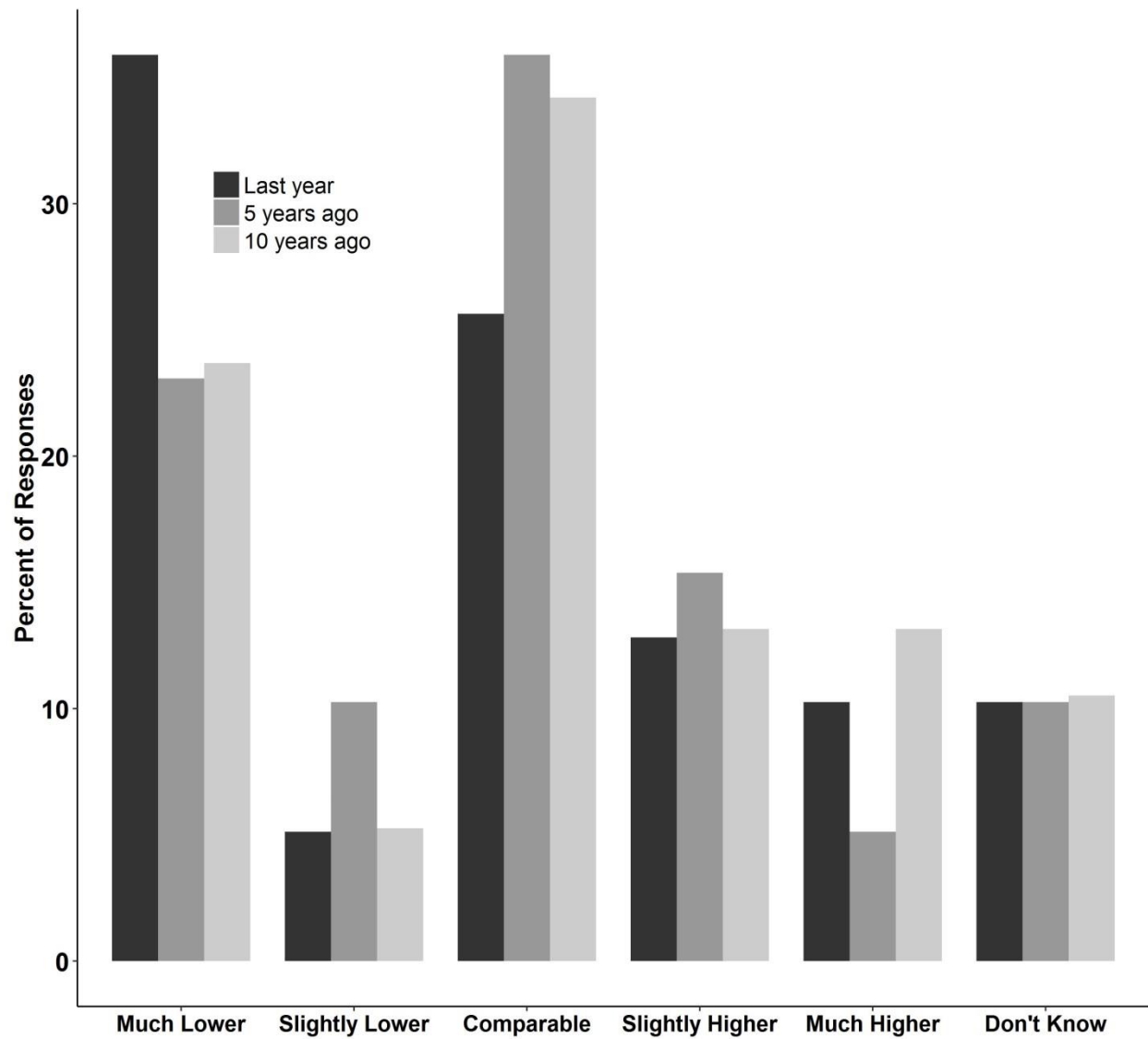


The South Dakota Department of Game, Fish, and Parks reserves the right, but not the obligation, to remove at its discretion any language which discloses personally identifiable information about yourself or any other individual, as well as language which is obscene, profane, offensive, malicious, discriminatory, defamatory or otherwise unlawful.

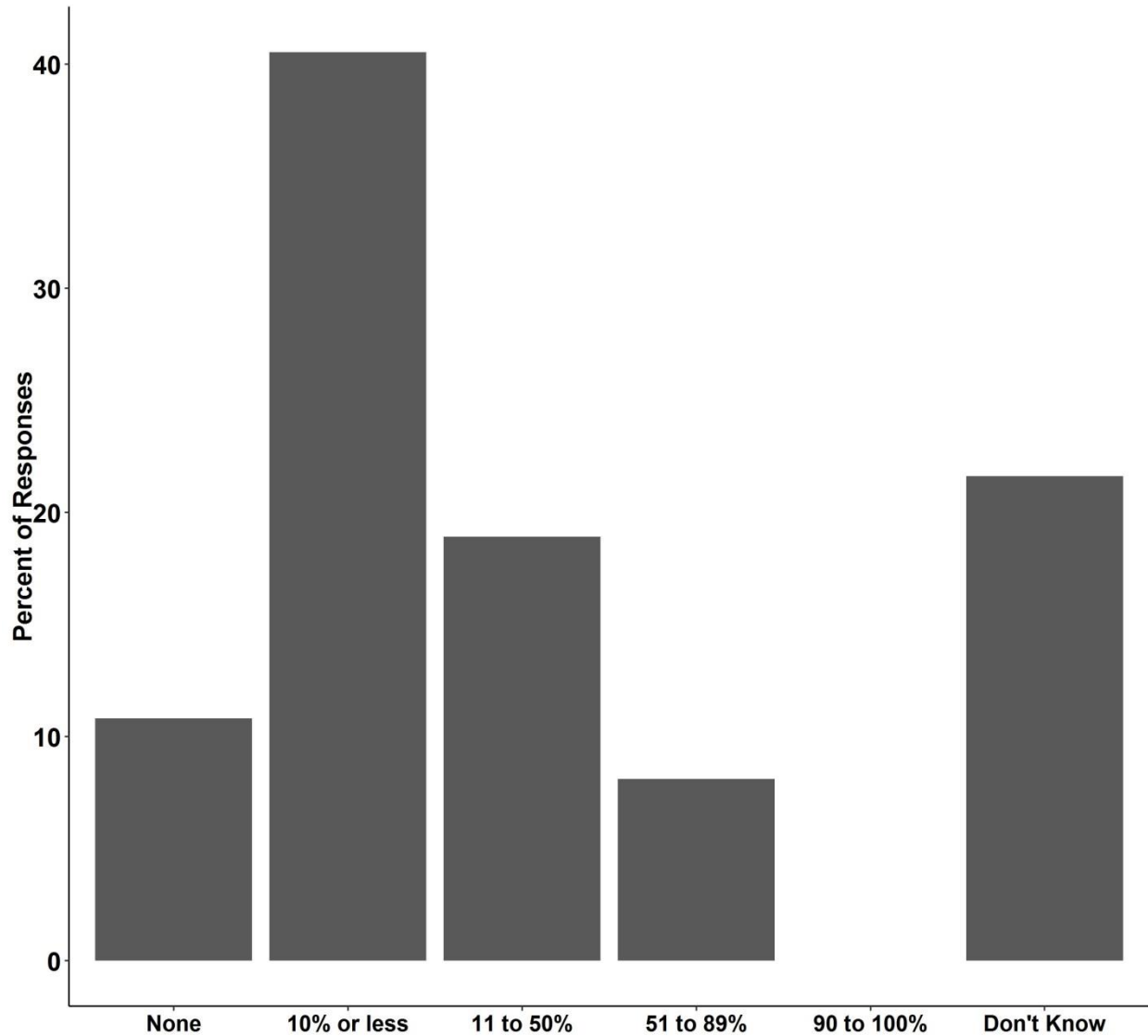
Q6. How would you describe the abundance of **red fox** in 2016 compared to each of the following timeframes?



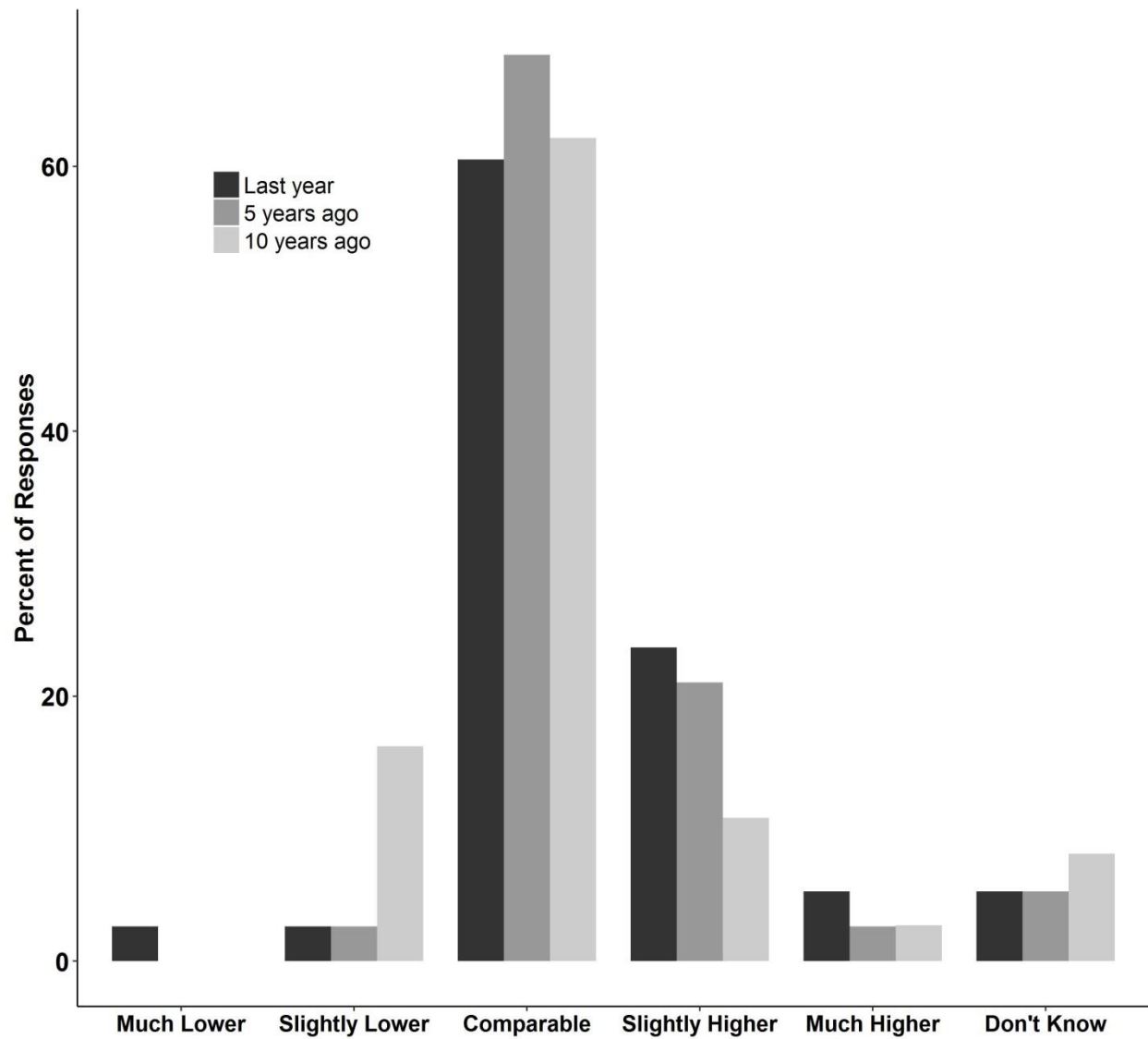
Q7. How would you describe the abundance of **red fox compared to coyote** in 2016 for each of the following time frames?



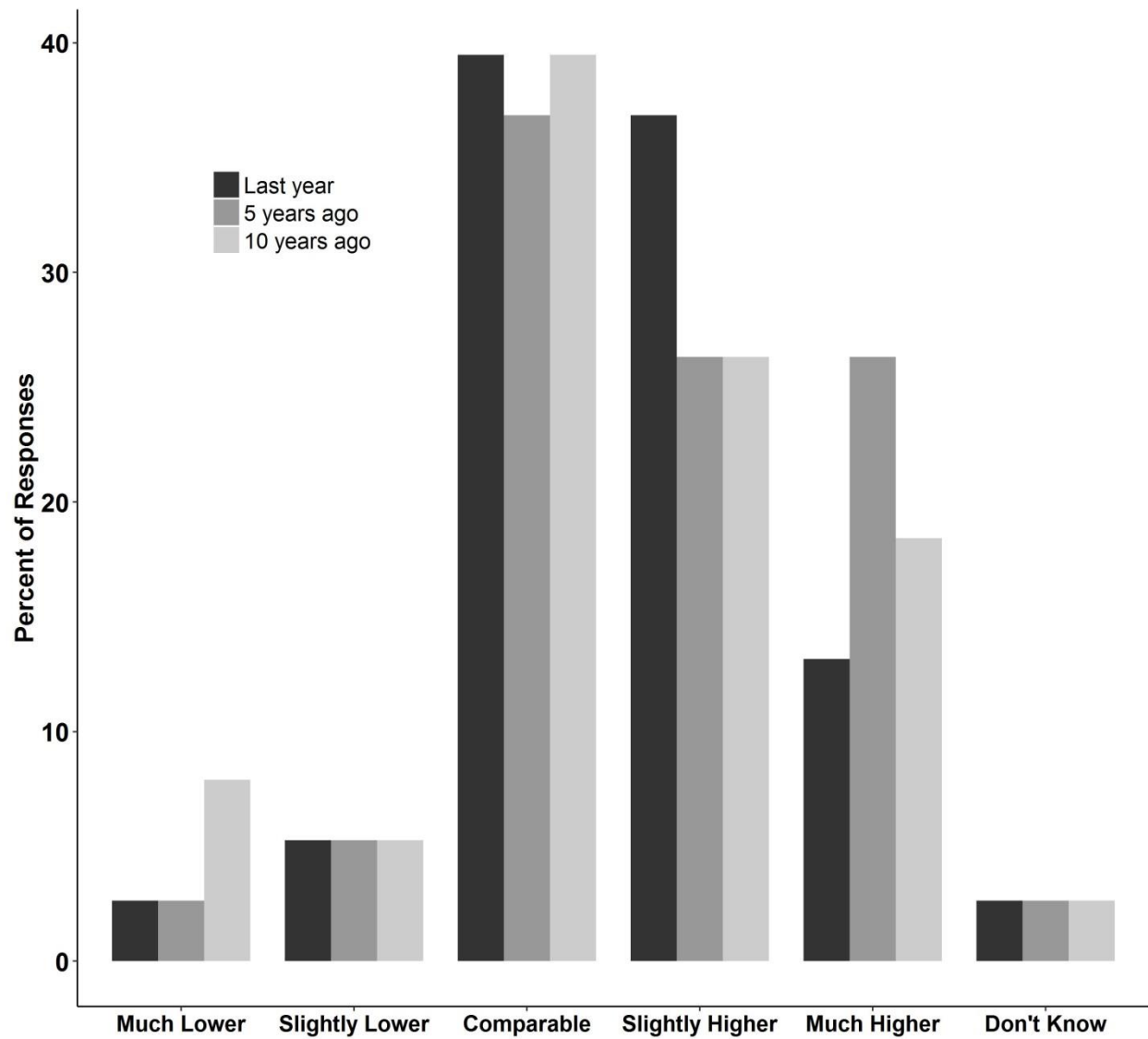
Q8. What percentage of coyote and red fox you observed had mange during the past year?



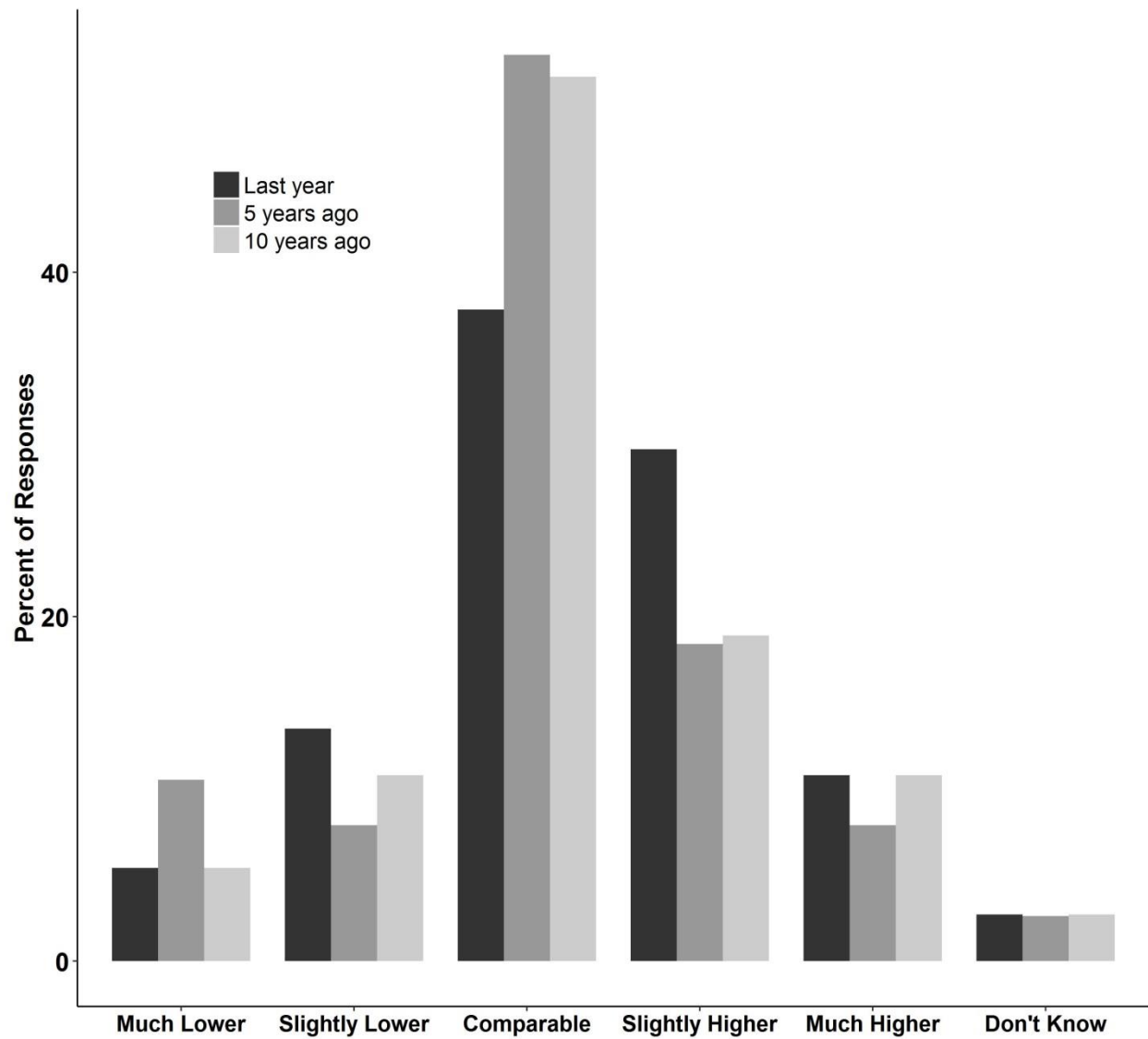
Q9. How would you describe the abundance of **mammalian predators** in 2016 other than red fox or coyote (e.g. raccoon, striped skunk, etc.) compared to each of the following time frames?



Q10. How would you describe the abundance of **raptors** (eagles and hawks) in 2016 compared to each of the following time frames?



Q11. How would you describe the abundance of **prey species** (e.g. jackrabbits, cottontail rabbits and rodents) in 2016 compared to each of the following timeframes?



Q12. Have you observed any activities that could be considered a disturbance to sage-grouse? *Please be specific in regards to frequency, duration, and intensity of events.*

See Appendix 3 for additional responses.

Q13. Have you observed any **ravens** in 2016, and If yes, how many? Did you observe nesting activity?
Ravens are noticeably larger than the American Crow which is common to the area.

See Appendix for 4 additional responses.

Appendix 1. Question 3

2016-01: Had Atlas of course. Bad hail storm last summer in that area
2016-02: Hail storms- general area
2016-03: Possibly- fires, tornadoes, floods since 2000
2016-04: No
2016-05: No
2016-07: We have had fire, hail, spring snowstorms and drought all in the last year and years past
2016-09: ?
2016-10: ?
2016-11: Hail storm
2016-13: No
2016-14: No
2016-15: Lack of rain-no grass green last summer for cover
2016-16: No
2016-17: Dry, but not sure
2016-18: Hail/Drought
2016-19: Whole area was in severe drought. Just about every damn on ranch was dry
2016-20: Drought across all the county
2016-22: Drought
2016-23: No
2016-24: No
2016-25: No catastrophic but a drought followed by harsh winter would lead to stress
2016-26: Severe drought.
2016-27: No
2016-28: Severe winter
2016-29: Cold winter with lots of snow
2016-30: Drought
2016-31: Drought conditions in 2016, more numbers of skunks, raccoons, red fox, and coyotes
2016-32: No
2016-33: Drought and predators
2016-34: Extreme drought followed by a severe cold and snowy winter
2016-35: Drought and eagles
2016-37: No
2016-38: No
2016-39: No
2016-40: Severe winter, influx of coyotes - huge and keep coming in; drought this summer

Appendix 2. Question 4

2016-01: Drought conditions; not as good as the year before
2016-02: Drought
2016-03: Extreme drought- very little growth
2016-04: Very dry but had a lot of old grass
2016-05: Normal
2016-06: Worse drought I have ever seen
2016-07: We never turned green. Our hay fields were zeroed in early June
2016-08: Drought conditions were present during spring and summer months. Was much wetter in September and October
2016-09: DROUGHT
2016-10: DROUGHT
2016-13: Drought conditions in late growing season
2016-14: Bad drought but range habitat was ok
2016-15: Range conditions were poor last year due to drought last summer
2016-16: The habitat and range conditions in the area suffered drought conditions throughout the spring, summer, and fall.
2016-17: Short grass, dry sagebrush. Lush grass in valleys
2016-18: Drought
2016-19: Drought was a major factor
2016-20: It was a severe drought. No growth of much of anything
2016-22: Drought
2016-23: Extreme drought conditions
2016-24: Some cheatgrass; drought
2016-25: Wide ranging drought in 2016
2016-26: Severe drought, very little new growth in 2016
2016-27: Drought
2016-28: Extreme drought
2016-29: Year was dry and grass was shorter than usual
2016-30: Drought
2016-31: Drought conditions in 2016
2016-32: Very dry
2016-33: Drought
2016-34: Drought conditions were present
2016-35: Dry and drought
2016-36: Drought conditions
2016-37: Drought conditions were very present
2016-38: Drought conditions
2016-39: Real dry; short grass
2016-40: Drought and 2017 also

Appendix 3. Question 12

2016-01: Nothing that I can think of

2016-03: Nothing observed

2016-04: No

2016-05: No

2016-06: Drought and presence of eagles especially coyotes

2016-07: We have many hawks, eagles and coyotes

2016-08: I believe avian predators (eagles-hawks-falcons) are killing more sage grouse than one would think. I have never seen in my 63 years on the same ranch the numbers of these birds so great

2016-09: No

2016-10: No

2016-11: The drought in summer and fall of 2016. The harsh winter in December of 2016

2016-13: No

2016-14: No

2016-15: No

2016-16: No

2016-17: No- Not much has changed in pasture except for the drought

2016-19: None that I have noticed

2016-20: Too much snow

2016-22: No

2016-23: Too many coyotes

2016-24: No

2016-25: No

2016-26: No

2016-27: Coyotes

2016-28: No

2016-29: No

2016-30: Unsure

2016-31: Ok production activity - a large amount of motor vehicle traffic

2016-32: No

2016-33: No

2016-34: No activity has been observed

2016-35: No

2016-37: No

2016-38: None that I have noticed

2016-39: No

2016-40: Coyotes howling every night

Appendix 4. Question 13

2016-01: No ravens or crows in our area

2016-02: Yes-10-12 no nesting; vultures - red headed raven?

2016-03: None observed

2016-04: No

2016-05: No

2016-06: No

2016-07: Yes maybe 20. I did not see any nesting activity

2016-08: No

2016-09: No

2016-10: No

2016-11: No

2016-13: No

2016-14: No

2016-15: No

2016-16: No

2016-17: None

2016-18: Only on dead stuff- Had Blue green algae on a [unable to read] and had quite a few ravens and eagles eating the dead lambs

2016-19: Have seen some ravens. A lot of hawks and eagles also.

2016-20: No

2016-22: Many

2016-23: No ravens

2016-24: No

2016-25: Some ravens. Mostly migratory in the spring.

2016-27: No

2016-28: No

2016-29: No

2016-30: No

2016-31: I have not seen any ravens. Very seldom do, see any crows

2016-32: No

2016-33: No

2016-34: We do not have ravens in our area

2016-35: Yes, Chicken hawks and eagles

2016-37: No ravens

2016-38: Yes

2016-39: No

2016-40: I don't think so. We don't want them either.